APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 April 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-44</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-44</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>22 April 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This action is issued in response to applicant filed application on 04/22/2004.

2.   Claims 1 – 22 are pending.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

4.   Claims 38 – 42 are rejected under 35 U.S.C. 101 because:

The claims lack the necessary physical articles or objects to constitute a machine

or a manufacture within the meaning of 35 USC 101. They are clearly not a series of

steps or acts to be a process nor are they a combination of chemical compounds to be

a composition of matter. As such, they fail to fall within a statutory category. They are, at

best, functional descriptive material *per se*.

Descriptive material can be characterized as either "functional descriptive

material" or "nonfunctional descriptive material." Both types of "descriptive material" are

nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d

at 1759. When functional descriptive material is recorded on some computer-readable

medium, it becomes structurally and functionally interrelated to the medium and will be

statutory in most cases since use of technology permits the function of the descriptive

material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d

1031, 1035 (Fed. Cir. 1994)

Claim 38 merely claims nonfunctional descriptive material, i.e., abstract ideas,

stored on a computer-readable medium, which does not make it statutory. See *Diehr*,

450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson*

were unpatentable as abstract ideas because "[t]he sole practical application of the

algorithm was in connection with the programming of a general purpose computer.").

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1 – 44 are rejected under 35 U.S.C. 102(e) as being anticipated by

Sandler et al. (Sandler hereinafter) (US Patent No. 2003/0217033 A1, filed: May 17,

2002).

Regarding Claims 1, and 22, Sandler discloses computer readable medium

containing a program which, when executed, performs a process for identifying

correlated columns from database tables, the process comprising:

determining correlation attributes for a first column and a second column from

one or more database tables, the correlation attributes describing for each column at

least one of the column and content of the column (Fig. 18A, items 1806, and 1804,

Page 17, [0235], lines 7 – 12; wherein the step of mapping which includes all of the

values in field K1 1804 that have the same values in field F1 1806 corresponds to the

step of determining the correlation attributes as claimed; wherein values F1

corresponds to the first column claimed; and wherein values in K1 corresponds to the

second column claimed; Sandler);

comparing the correlation attributes from the first and second column (Fig. 18A,

items 1806, and 1804, Page 17, [0235], lines 7 – 12, all of the values in field K1 1804

that have the same values in field F1 1806, Sandler);

identifying similarities between the first and second column on the basis of the

comparison (Fig. 18A, items 1806, and 1804, Page 17, [0235], lines 8 – 15, all of the

values in field K1 1804 that have the same values in field F1 1806, Sandler);

on the basis of the identified similarities, determining whether the first and

second column are correlated (Fig. 18A, Page 17, [0235], lines 12 – 15, Sandler); and

merging the first and second columns only if the columns are determined to be

correlated (Fig. 18A, items 1806, 1804, 1802, and 1810, Page 17, [0235], lines 7 – 15;

all of the values in field K1 1804 that have the same values in filed F1 1806 must be

combined to provide a value for filed F 1806 must be **combined to provide a value for

filed F 1810 in table TARGET 1802**, Sandler).

Regarding Claims 2, and 23, Sandler discloses a computer readable medium,

wherein identifying the similarities comprises:

determining a correlation value indicating a degree of correlation between the

first and the second column (Page 2, [0018], lines 6 – 9, Sandler); and

determining whether the correlation value exceeds a predetermined threshold

(Page 2, [0018], lines 6 – 9; is above a predetermined threshold; Sandler).

Regarding Claims 3, and 24, Sandler discloses a computer readable medium,

wherein the process further comprises:

if it is determined that the first and second column are correlated (Fig. 18A, items

1806, and 1804, Page 17, [0235], lines 7 – 12, Sandler), displaying an indication to a

user that the first and second column can be merged (Page 1, and 2, [0008], and

[0015], lines 1 – 5, and 4 – 7; respectively, Sandler); and

in response to user input, merging the first and second column into a single

column (Page 10, [0132], lines 2 – 8, Sandler).

Regarding Claims 4, and 25, Sandler discloses a computer readable medium,

wherein the first column is a column of a first database table and the second column is

a column of a second database table, the process further comprising:

determining correlation attributes for N columns from the first database table and

M columns from the second database table, where N and M are integers (Fig. 18A,

items 1806, and 1804, Page 17, [0235], lines 7 – 12, Sandler);

comparing the correlation attributes from each of the N columns with the

correlation attributes from each of the M columns to identify similarities between the N

and M columns (Fig. 18A, items 1806, and 1804, Page 17, [0235], lines 7 – 12, all of the

values in field K1 1804 that have the same values in field F1 1806, Sandler); and

on the basis of the identified similarities, determining whether one or more of the

N and M columns are correlated (Fig. 18A, Page 17, [0235], lines 12 – 15, Sandler).

Regarding Claims 5, and 26, Sandler discloses a computer readable medium,

wherein the process further comprises:

merging each of the one or more of the N and M columns determined to be

correlated (Fig. 18A, items 1806, 1804, 1802, and 1810, Page 17, [0235], lines 7 – 15;

all of the values in field K1 1804 that have the same values in filed F1 1806 must be

combined to provide a value for filed F 1806 must be **combined to provide a value for**

filed F 1810 in table TARGET 1802, Sandler).

Regarding Claims 6, and 27, Sandler discloses a computer readable medium,

wherein the process further comprises:

determining, from the one or more database tables, metadata describing

characteristics of each column (Page 4, [0056], lines 3 – 10, Sandler); and

wherein the correlation attributes are determined on the basis of the determined

metadata (Page 18, [0251], lines 3 – 10, Sandler).

Regarding Claims 7, and 28, Sandler discloses a computer readable medium,

wherein the determined metadata describes for each column an attribute of a data value

in the column (Fig. 18A, items 1806, and 1804, Page 17, [0235], lines 8 – 15, all of the values in field K1 1804 that have the same values in field F1 1806, Sandler).

Regarding Claims 8, and 29, Sandler discloses a computer readable medium, wherein the determined metadata describes for each column at least one of:

(i) a label;

(ii) a comment;

(iii) a constraint;

(iv) a trigger;

(v) a name (Page 9, [0116], lines 1 – 3, Sandler);

(vi) a data type (Page 4, [0057], lines 10 – 12; data type, Sandler); and

(vii) a column length (Page 4, [0057], lines 10 – 12; length of the columns, Sandler).

Regarding Claims 9, and 30, Sandler discloses a computer readable medium, wherein the process further comprises:

determining, from the one or more database tables, statistical parameters associated with each of the columns (Page 4, [0059], lines 1 – 5, Sandler); and

wherein the correlation attributes are determined on the basis of the determined statistical parameters (Page 4, [0059], lines 5 – 9, Sandler).

Regarding Claims 10, and 31, Sandler discloses a computer readable medium, wherein the determined statistical parameters describe for each column at least one of:

(i) a minimum value (Page 4, [0059], lines 1 – 5; minimum; Sandler);

(ii) a maximum value (Page 4, [0059], lines 1 – 5; maximum; Sandler);

(iii) an average value; and

(iv) a range of values (Page 4, [0059], lines 1 – 5; ... maintains a range indices for each key field column ... ; Sandler).

Regarding Claims 11, and 32, Sandler discloses a computer readable medium, wherein the process further comprises:

determining, from the one or more database tables, ontological properties describing cognitive qualities associated with each column (Page 8, [0110], lines 3 – 9, Sandler); and

wherein the correlation attributes are determined on the basis of the determined ontological properties (Page 8, [0110], lines 3 – 9, Sandler).

Regarding Claims 12, and 33, Sandler discloses a computer readable medium, wherein the determined ontological properties describe for each column at least one of:

(i) a synonym (Page 8, [0110], lines 3 – 9; synonym table, Sandler);

(ii) a parent node (Page 6, [0073], lines 9 – 14; Sandler); and

(iii) an ancestor node (Page 6, [0073], lines 9 – 14; Sandler).

Regarding Claims 13, and 34, Sandler discloses a computer readable medium, wherein the process further comprises:

determining, from the one or more database tables, metadata describing the ontological properties (Page 8, [0110], lines 3 – 9, Sandler).

Regarding Claims 14, and 35, Sandler discloses a computer readable medium, wherein the process further comprises:

determining, from the one or more database tables, measurement units associated with each column (Page 4, [0059], lines 1 – 5, Sandler); and

wherein the correlation attributes are determined on the basis of the determined measurement units (Page 4, [0059], lines 5 – 9, Sandler).

Regarding Claims 15, and 36, Sandler discloses a computer readable medium, wherein the process further comprises:

determining, from the one or more database tables, metadata describing the measurement units (Page 4, [0059], lines 1 – 5, Sandler).

Regarding Claims 16, and 37, Sandler discloses a computer readable medium, wherein identifying the similarities comprises:

determining whether the first and second column are associated with similar measurement units (Fig. 18A, items 1806, and 1804, Page 17, [0235], lines 7 – 12, all of the values in field K1 1804 that have the same values in field F1 1806, Sandler).

Regarding Claims 17, and 38, Sandler discloses a computer readable medium containing a program which, when executed, performs a process for identifying correlated columns from database tables, the process comprising:

determining metadata for at least two columns from one or more database tables, the metadata describing characteristics of each column (Page 4, [0056], lines 3 – 10, Sandler);

analyzing content from the at least two columns from the one or more database tables (Fig. 18A, items 1806, and 1804, Page 17, [0235], lines 7 – 12, all of the values in field K1 1804 that have the same values in field F1 1806, Sandler); and

determining a degree of correlation between the at least two columns using the determined metadata and the analyzed content (Page 18, [0251], lines 3 – 10, Sandler).

Regarding Claims 18, and 39, Sandler discloses a computer readable medium, wherein determining the degree of correlation comprises:

assigning a first correlation value to the determined metadata (Page 9, [0122], line 1; one column is chosen as a filed of values sources; Sandler);

assigning a second correlation value to the analyzed content, wherein the first and second correlation values are different (Page 9, [0123], and [0124], lines 1 – 6, and 1 – 2; respectively; Sandler); and

calculating a total correlation value on the basis of the first and second

correlation values (Page 9, [0125], lines 1 – 4; ... distinct values in the column gets

added to the result of (3); Sandler).

. Regarding Claims 19, and 40, Sandler discloses a computer readable medium,

wherein the process further comprises:

merging the at least two columns if the total correlation value exceeds a

predetermined threshold value (Page 2, [0018], lines 6 – 9; is above a predetermined

threshold; Sandler).

Regarding Claims 20, and 41, Sandler discloses a computer readable medium,

wherein analyzing the content comprises:

determining statistical parameters from the content of each column (Page 4,

[0059], lines 1 – 5, Sandler).

Regarding Claims 21, and 42, Sandler discloses a computer readable medium,

wherein the process further comprises:

merging the first and the at least one second column if it is determined that the

first and at least one second column are correlated (Fig. 18A, items 1806, 1804, 1802,

and 1810, Page 17, [0235], lines 7 – 15; all of the values in field K1 1804 that have the

same values in filed F1 1806 must be combined to provide a value for filed F 1806 must

be **combined to provide a value for filed F 1810 in table TARGET 1802**, Sandler).

Regarding Claim 43, Sandler discloses a data processing system comprising:

at least one database having one or more database tables (Page 2, [0016], lines

1 – 4, Sandler); and

a correlation manager for identifying correlated columns from the one or more

database tables (Page 6, [0082], lines 3 – 6, Sandler), the correlation manager being

configured for:

determining correlation attributes for a first column and a second column

from the one or more database tables, the correlation attributes describing for

each column at least one of the column and content of the column (Fig. 18A,

items 1806, and 1804, Page 17, [0235], lines 7 – 12; wherein the step of

mapping which includes all of the values in field K1 1804 that have the same

values in field F1 1806 corresponds to the step of determining the correlation

attributes as claimed; wherein values F1 corresponds to the first column claimed;

and wherein values in K1 corresponds to the second column claimed; Sandler);

comparing the correlation attributes from the first and second column (Fig.

18A, items 1806, and 1804, Page 17, [0235], lines 7 – 12, all of the values in field

K1 1804 that have the same values in field F1 1806, Sandler);

identifying similarities between the first and second column on the basis of

the comparison (Fig. 18A, items 1806, and 1804, Page 17, [0235], lines 8 – 15,

all of the values in field K1 1804 that have the same values in field F1 1806,

Sandler);

on the basis of the identified similarities, determining whether the first and

second column are correlated (Fig. 18A, Page 17, [0235], lines 12 – 15, Sandler);

and

merging the first and second columns only if the columns are determined

to be correlated (Fig. 18A, items 1806, 1804, 1802, and 1810, Page 17, [0235],

lines 7 – 15; all of the values in field K1 1804 that have the same values in filed

F1 1806 must be combined to provide a value for filed F 1806 must be

combined to provide a value for filed F 1810 in table TARGET 1802,

Sandler).

Regarding Claim 44, Sandler discloses a data processing system comprising:

at least one database having one or more database tables (Page 2, [0016], lines

1 – 4, Sandler); and

a correlation manager for identifying correlated columns from the one or more

database tables (Page 6, [0082], lines 3 – 6, Sandler), the correlation manager being

configured for:

determining metadata for at least two columns from the one or more

database tables, the metadata describing characteristics of each column (Page

4, [0056], lines 3 – 10, Sandler);

analyzing content from the at least two columns from the one or more

database tables (Fig. 18A, items 1806, and 1804, Page 17, [0235], lines 7 – 12,

all of the values in field K1 1804 that have the same values in field F1 1806,

Sandler); and

determining a degree of correlation between the at least two columns

using the determined metadata and the analyzed content (Page 18, [0251], lines

3 – 10, Sandler).

Prior Art Made Of Record

1. Sandler et al. (US Patent App. Pub. No. 2003/0217033 A1, filed: May 17, 2002).

2. Suzuki et al. (US Patent No. 6,044,383).

Points Of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna Colan whose telephone number is (571) 272-2752. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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